

ROBOTIC MANIPULATION SYSTEM UTILIZING FLUIDIC PATTERNING

ABSTRACT

5 A system (100, 100') and method for robotic manipulation of objects
(130) is provided wherein a liquid (110, 110') is agitated by the transfer of energy
thereto for establishing an oscillatory motion instability in the liquid (110, 110').
The energy input into the liquid (110, 110') forms standing waves (112). The
objects (130) align themselves with nodes of the standing waves (112) and thus
10 are dynamically arranged in a configuration established by the location of the
standing waves (112). The location of the standing waves (112) can be
predetermined by controlling the energy input by energy application system (140)
and the size and shape of the container (120). Predetermined waveforms are
supplied from the signal source (150, 154) to the energy application system
15 (140).